IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION
NO. 7:23-CV-00897

IN RE: **CAMP LEJEUNE WATER LITIGATION** **This Document Relates To:** ***Hill v. United States*, 7:23-CV-00028-M-KS**	**PLAINTIFF'S MEMORANDUM OF LAW IN OPPOSITION OF THE UNITED STATES' MOTION TO EXCLUDE THE SPECIFIC CAUSATION OPINIONS OF DR. DEAN FELSHER** **(LEUKEMIA)**

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INTRODUCTION

Dr. Felsher's testimony and opinions are scientifically valid, sufficiently reliable, and readily meet the standard for admissibility under Federal Rule of Evidence 702. Despite Defendant's out of context soundbites, Dr. Felsher provides a basis for every opinion, and he reliably identified and then ruled out potential alternative causes of Plaintiff Hill's Chronic Lymphocytic Leukemia ("CLL").

Defendant's motion rests on three misconceptions. First, it mischaracterizes differential etiology as demanding that an expert "rule out" every conceivable alternative, including "idiopathy," before identifying a cause. That is not the law. Courts repeatedly hold that a reliable differential etiology eliminates potential causes until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely, and that disagreement over competing explanations goes to weight, not admissibility. Second, Defendant treats population-level concepts—such as background risk and the proportion of "idiopathic" cases—as if they were plaintiff-specific causes that must be ruled in and ruled out. They are not causes; they are statistics, and they do not control the analysis where a case-specific cause has been reliably identified. Third, Defendant's suggestion that Dr. Felsher abandoned his opinions regarding vinyl chloride during deposition testimony is unsupported by the record and contrary to his written specific-causation report, which expressly addresses vinyl chloride as part of the combined exposures in Camp Lejeune water.[1]

[1] Plaintiffs concede that Dr. Felsher did not offer an opinion that Mr. Hill's chronic kidney disease or fatty liver disease (steatosis) were directly caused by exposure to the water at Camp Lejeune.

BACKGROUND

Dr. Felsher, who opines on specific causation in the instant case, is an eminently qualified and experienced expert in the field of oncology with a specialty in blood cancers. He has been a Professor of Oncology at Stanford University for two decades and holds the position of Associate Chief of the Division of Oncology. He has over 25 years of experience in cancer research, including the mechanisms of cancer; in other words, he has studied the means by which agents cause cancer in people for decades. Dr. Felsher is also the director of the Dean Felsher Laboratory at Stanford University, a laboratory that investigates the mechanisms of cancer. Dr. Felsher has authored over 100 peer-reviewed articles in leading scientific journals. In addition to teaching, research, and publications, Dr. Felsher has treated thousands of patients with cancer, including hundreds of patients with hematopoietic cancers.

Dr. Felsher applied his extensive knowledge and experience to perform a differential etiology for Mr. Hill and to reach his opinion that Mr. Hill's exposure to the water at Camp Lejeune is a substantial factor in causing his CLL. His differential etiology assessment included determining whether Mr. Hill had risk factors relating to his cancer, including Mr. Hill's exposure to the chemicals in the Camp Lejeune water. Dr. Felsher then determined that Mr. Hill's Camp Lejeune exposure was a cause of his CLL, and he continued his evaluation of the other risk factors to determine whether any of them might be additional causes of Mr. Hill's CLL. Felsher Am. SC Rep. (Hill) at 20 (JA Ex. 451, D.E. 496-3). Dr. Felsher considered medical and scientific literature related to the chemicals in the Camp Lejeune water, as well as for other potential risk factors that might apply to Mr. Hill's case. In ruling out risk factors other than Camp Lejeune water, Dr. Felsher provided explanations for his opinion in his report, and he further explained them in his deposition when asked. His methodology is textbook for conducting a differential etiology.

LEGAL STANDARD

Under Rule 702, a district court must ensure that the expert is qualified and that the expert's testimony is both relevant and reliable. In performing this gatekeeping role, a district court is not intended to serve as a replacement for the adversary system, and consequently, the rejection of expert testimony is the exception rather than the rule." *United States v. Smith*, 919 F.3d 825, 835 (4th Cir. 2019) (internal quotations and citations omitted). Indeed, "Rule 702 was intended to liberalize the introduction of relevant expert evidence." *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 261 (4th Cir. 1999) (citing *Cavallo v. Star Enter.*, 100 F.3d 1150, 1158–59 (4th Cir. 1996)). Therefore, the court "need not determine that the expert testimony . . . is irrefutable or certainly correct." *Id*. Instead, "[a]s with all other admissible evidence, expert testimony is subject to being tested by '[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof.'" *Id*. (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 596 (1993)).

It is also well-established that "the court should not resolve contested factual issues at the admissibility stage" and that "[q]uestions regarding the factual underpinnings of the expert witness' opinion affect the weight and credibility of the witness' assessment, not its admissibility." *Mountain Valley Pipeline, LLC v. 0.32 Acres of Land*, 127 F.4th 427, 435 (4th Cir. 2025) (vacating and remanding exclusion of expert opinion). (citation omitted)

Importantly, "[t]he thrust of Rule 702 is to protect ***the jury*** from 'evidence that is unreliable for reasons they may have difficulty understanding.'" *Reetz v. Lowe's Cos.*, No. 5:18-CV-00075-KDB-DCK, 2021 WL 674016, at *3–4 (W.D.N.C. Feb. 22, 2021) (emphasis added) (quoting *Quality Plus Servs., Inc. v. Nat'l Union Fire Ins. Co. of Pittsburgh, PA.*, No. 3:18-cv-454, 2020 WL 239598, at *13 (E.D. Va. Jan. 15, 2020) and 29 Charles A. Wright & Victor J. Gold, Federal

Practice and Procedure § 6270 (2d ed. 2019)); *see* also *In re Zurn Pex Plumbing Prods. Liab. Litig.*, 644 F.3d 604, 613 (8th Cir. 2011) ("The main purpose of Daubert exclusion is to protect juries from being swayed by dubious scientific testimony."). By contrast, "when the judge serves as the factfinder, this risk of confusion presents significantly less of a concern, if any at all." *Id*. at *3 (citing *United States v. Brown*, 415 F.3d 1257, 1269 (11th Cir. 2005) ("There is less need for the gatekeeper to keep the gate when the gatekeeper is keeping the gate only for himself.")).

Accordingly, in a bench trial, "the Court has discretion to admit the expert evidence 'subject to the ability later to exclude it or disregard it' at trial." *Id.* at *4. (quoting *Hewett v. City of King*, No. 1:12CV1179, 2014 WL 7642093, at *1 (M.D.N.C. Sept. 8, 2014)); *see also Pender v. Bank of Am. Corp.*, No. 3:05-cv-00238-GCM, 2016 WL 6133850, at *3 (W.D.N.C. Oct. 20, 2016) ("As this is a bench trial, the Court can freely accept or reject an expert's testimony at trial as the trier of fact.").

ARGUMENT

Dr. Felsher's expert opinions satisfy Rule 702's "reliability" prong of admissibility. Defendant's motion must be denied for three reasons: (1) Dr. Felsher's differential etiology properly identifies potential alternative risk factors and reliably rules them out; (2) Dr. Felsher properly did not analyze idiopathy as a cause of Mr. Hill's CLL because he identified a cause and thus was not required to rule out idiopathy, although he acknowledged idiopathy generally; and (3) Dr. Felsher did not abandon his opinions regarding vinyl chloride ("VC") as a relevant exposure at his deposition.

I. Dr. Felsher Conducted a Reliable Differential Etiology, Properly Ruling Out the Potential Risk Factors He Found to Be Related to Mr. Hill's CLL Diagnosis.

Dr. Felsher conducted a reliable differential etiology by thoroughly considering and ruling out Mr. Hill's risk factors for CLL. When ruling out alternative possible causes, an expert should

"offer an explanation as to why . . . other recognized causes, alone, are not responsible for the disease in a particular plaintiff." *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig. (No II) MDL 2502*, 892 F.3d 624, 643 (4th Cir. 2018) (citation omitted). To warrant exclusion, however, an expert must "utterly fail to consider alternative causes or [fail] to offer an explanation for why the proffered alternative cause was not the sole cause" for an opinion to be unreliable. *Westberry*, 178 F.3d at 266. Unless an expert can offer "no explanation" for excluding a potential cause, the testimony should be admitted. *See id.* at 265.

Defendant acknowledges that Dr. Felsher appropriately identified several possible risk factors, but nevertheless argues he "failed to take serious account" of these factors, rendering his opinions unreliable. D.E. 538 at 7. Not so. Dr. Felsher carefully explained the process he undertook to conduct his differential etiology and how he reached each conclusion. As Dr. Felsher explains, he "considered the medical and scientific literature as well as reviewed the medical records and deposition testimony . . . to determine whether Mr. Hill had risk factors relating to his CLL and, if so, which risk factor(s), if any, were at least as likely than not, causative of [Mr. Hill's] CLL." Felsher Am. SC Rep. (Hill) at 20 (JA Ex. 451, D.E. 496-3). But he ruled out the other risk factors because, as explained in more detail below, he does not consider them independent causes of Mr. Hill's CLL.

It is Dr. Felsher's well-reasoned opinion that these other factors, at most, made Mr. Hill more susceptible to developing cancer, but they are not, standing alone, independent causes of CLL. *See* Felsher SC Dep. Tr. at 237:16–238:8 (JA Ex. 606, D.E. 509-4). Thus, Dr. Felsher concludes that these other factors are not causes of Mr. Hill's cancer, but rather influence or enhance the promotion of cancer, in contrast to exposure to a genotoxic carcinogen which can and does initiate cancer. *See id*. at 238:15–19; *see also* Restatement 3d Torts § 27, cmt. (f) (discussing

role of background factors in causing harm). Because Dr. Felsher offered clear explanation and did not simply "summar[ily] reject[]" alternative causes, *see* D.E. 538 at 10, his testimony is admissible.

A. Dr. Felsher Properly Accounted for Age.

As to age, Dr. Felsher opined that "[a]dvanced age is a risk factor for non-Hodgkin Lymphoma ("NHL") and CLL but is not independent of any other risk factors that are not considered to be causative." Felsher Am. SC Rep. (Hill) at 20–21 (JA Ex. 451, D.E. 496-3). What's more, Mr. Hill, at age 52, was not at an "advanced age." Additionally, Dr. Felsher explained at his deposition that "age allows time to happen which can allow a cancer to occur after an exposure . . . [thus] age is not independent of a carcinogenic exposure because the older [a person is], the more chance [there is] to be exposed for a period of time and have [] enough time for a cancer to occur." *See* Felsher SC Dep. Tr. at 232:19–25 (JA Ex. 606, D.E. 509-4). Age merely represents "the time for [Mr. Hill's] exposure to cancer-causing carcinogens to give rise to his cancer." *Id.* at 237:19–21. In sum, Dr. Felsher explains throughout his deposition that age is "associated with having the time to be exposed to a carcinogen and for sufficient time … for that exposure to lead to cancer" but it is not an independent cause. *See*, *e.g.*, *id.* at 253:22–24. He bases this opinion on "decades thinking about cause and mechanisms of cancer[.]" *Id*. at 261:10–11. The fact that Defendant has a different opinion than Dr. Felsher about the relevance and/or significance of age as a risk factor is grounds for cross-examination at trial, but it is not a ground for excluding Dr. Felsher's testimony.

B. Dr. Felsher Properly Accounted for Gender.

Dr. Felsher next opined that Mr. Hill's gender was not an independent risk factor for his CLL, in part, because gender is "a bias based on other sorts of causes." *Id.* at 242:5–9. In other

words, because "[b]eing male can be indirectly a cause. Males do jobs different from women, especially 20, 30 years ago. The services, there are more men than women." *Id.* at 255:7–10. Thus, men are diagnosed with more CLL than women because they historically held jobs that exposed them to genotoxic carcinogens.

When explaining and reasoning why he excluded gender as a cause, Dr. Felsher opined that "[t]here are other cases where the gender does have an influence. Sometimes there are subtle reasons why being male or female would make you more or less susceptible. In [Mr. Hill's] case I can't think of a reason" that gender played a role in his diagnosis. *Id.* at 242:10–14. Thus, Dr. Felsher concluded that Mr. Hill's gender is not a cause; rather, it is a bias that illustrates the old adage that correlation does not equal causation. Again, if Defendant disagrees with Dr. Felsher about the significance of gender as a cause of Mr. Hill's CLL, it can cross-examine Dr. Felsher at trial about that disagreement but it is not grounds for exclusion under Rule 702.

C. Dr. Felsher Properly Accounted for Obesity.

Dr. Felsher next opined that obesity was "unlikely in itself [to be] a direct independent cause" of Mr. Hill's cancer. Felsher SC Dep. Tr. at 241:10–12 (JA Ex. 606, D.E. 509-4). Specifically, Dr. Felsher explained in his deposition:

> [I] published a Nature paper showing if you cause changes in lipid metabolism, and basically inflammatory state you start seeing with obesity, you accelerate hepatocellular carcinoma caused by the oncogene, for example, MYC, which is one of the oncogenes that usually will get activated in lymphomas. So I know this based on my general knowledge. I have contributed directly to this knowledge. It's something I've studied. We published papers on how antagonizing lipids and lipid metabolism can be used as a treatment for cancer. We studied how metabolism and inflammation and changes in weight can accelerate cancer. We're studying cancer prevention. We've studied how we can modulate the microenvironment and factors that obesity influences to block cancer.

Id. at 258:3–21. Dr. Felsher not only relied on studies (such as those in which he has directly participated) relating to obesity and cancer, he expressly considered those studies when ruling out Mr. Hill's obesity. Specifically, as to Mr. Hill, Dr. Felsher explained that "obesity has been associated with a risk of cancer. Risk is not the same as cause. Obesity has complex effects on humans, but mainly changes [] susceptibility by causing a modulation inflammation immune system. Those modulations may make [someone] more susceptible to other causes." *Id.* at 140:23–141:4. Dr. Felsher continued to justify his ruling out of Mr. Hill's obesity in his specific causation report as follows:

> [H]e was overweight, and obesity can interfere with processes of the immune system and inflammation in a way that make him more susceptible as a risk factor, but I don't believe it was an independent cause. I believe it made it more – more susceptible….

Id. at 237:22–238:2. Therefore, based on his evaluation of the scientific literature and knowledge and experience from his own studies, Dr. Felsher concluded that obesity is "unlikely in itself a direct independent cause." *Id.* at 241:11–12; Felsher Am. SC Rep. (Hill) at 21 (JA Ex. 451, D.E. 496-3) ("[S]tanding on its own, or in combination with age and sex, obesity is not causal of Mr. Hill's CLL."); *see*, *e.g.*, *Rhyne v. U.S. Steel Corp.*, 474 F. Supp. 3d 733, 754–55 (W.D.N.C. 2020) (admitting expert testimony opining benzene caused disease even though defendant argued "obesity may have been a contributing factor"). Thus, Dr. Felsher's testimony that obesity was not a cause of Mr. Hill's CLL is reliable; again, if Defendant doesn't agree with him its remedy is cross-examination at trial.

D. Dr. Felsher Properly Accounted for Family History.

As to family history, Dr. Felsher opines that "Mr. Hill has a family history that includes cancer, but he has no known familial susceptibility syndrome. [S]usceptibility syndromes are not causes of cancer per se but increase the risk that exposures to environmental carcinogens would

be a cause of his cancer." Felsher Am. SC Rep. (Hill) at 21 (JA Ex. 451, D.E. 496-3). Dr. Felsher explained his opinion regarding family history of cancer as a risk factor at his deposition as follows:

> Family history. When investigated, almost every case, if not every case of where there's a family history of cancer is because somebody has a susceptibility to cancer. Most susceptibility syndromes have been shown when investigated to increase the ability of environmental carcinogens to cause cancer because most susceptibilities in genes involve, for example, genes that regulate DNA repair. And so chemicals that cause DNA damage when you expose somebody who has a susceptibility because they're less capable of repairing their DNA, they're going to be more susceptible to carcinogens. In fact, that's why there's so much heterogeneity in the ability of carcinogens to cause cancer.

Felsher SC Dep. Tr. at 233:1–16 (JA Ex. 606, D.E. 509-4). After describing susceptibility syndromes, and the absence of such identified in Mr. Hill's case, as the basis for his opinion and his ruling out of family history as a cause of Mr. Hill's injury, Dr. Felsher further explained that:

> We didn't talk in his case about that he has a family history that includes cancer but not any evidence of familial susceptibility syndrome, and I would say, well, I won't list that as a cause. I don't know that he has a susceptibility syndrome, he doesn't have a family history of non-Hodgkin's. We didn't talk about, but would I say that there could be a risk? Yes. Would I list it as a cause? No. Why? Well, there's not any specific evidence of a familial susceptibility syndrome."

Id. at 261:18–262:4. Dr. Felsher also explains his opinion on family history of cancer in his expert report for Mr. Hill: because Mr. Hill has "no family history of hematopoietic cancers [] there is no evidence for a familial susceptibility." Felsher Am. SC Rep. (Hill) at 28 (JA Ex. 451, D.E. 496-3).

Thus, Dr. Felsher's testimony that family history is not a cause of Mr. Hill's CLL is reliable; once again, Defendant's disagreement with his opinions must await cross-examination of Dr. Felsher at trial.

E. Dr. Felsher Properly Accounted for Occupational Exposure.

Finally, Dr. Felsher carefully considered whether Mr. Hill's occupational exposure to jet fuel could be a cause of his CLL. Yet Defendant ignores this substantial testimony, and instead misleadingly presents cherry-picked soundbites. For example, Defendant contends that Dr. Felsher "opined that benzene is associated with CLL" but nevertheless "inexplicably claimed that exposure to jet fuel…is not associated with CLL." *See* D.E. 538 at 8 (citing Felsher SC Dep. Tr. at 247:3–5). But the cited testimony is actually discussing Mr. Hill's occupational exposure to benzene and explaining how he ruled it out: "I considered the possibility, knowing that fuel can contain benzene, that there was some exposure." Felsher SC Dep. Tr. at 247:3–5 (JA Ex. 606, D.E. 509-4). Defendant quotes only a few isolated lines of much more comprehensive testimony in which Dr. Felsher describes why he discounted Mr. Hill's exposure to jet fuel. When Dr. Felsher was questioned about whether he had read literature indicating "that exposure to benzene could pose a health hazard among personnel involved with the handling and maintenance of jet fuel," *Id.* at 247:12–14. Dr. Felsher testified that he considered the "possibility that [Mr. Hill's] work caused [Mr. Hill] to be exposed to benzene," *id.* at 248:3–5, but it is his opinion that Mr. Hill's "exposure to drinking water contaminated with not just benzene but other chemicals could be a contributing cause of cancer." *Id.* at 248:8–12.

Dr. Felsher's basis for not considering Mr. Hill's occupational exposure to jet fuel as a risk factor to his NHL is also set forth in his expert report: "[w]hile exposure to jet fuel is thought to be associated with certain cancers, CLL is not one of them. In addition, Mr. Hill's use of a mask and gloves and protective gear would have minimized any inhalation of the vapors." Felsher Am. SC Rep. (Hill) at 21 (JA Ex. 451, D.E. 496-3). This opinion is not based on speculation, as

Defendant suggests, but on information from Plaintiff's deposition and Dr. Felsher's research about jet fuel and CLL.

Once again, Defendant is free to question Dr. Felsher at trial about his opinion that jet fuel is not a cause of Mr. Hill's CLL, but Defendant's disagreement with that opinion does not warrant exclusion. *See*, *e.g.*, *Rhyne*, 474 F. Supp. 3d at 753 ("[A]lternative causes . . . affect the weight that the jury should give the expert's testimony and not the admissibility of that testimony") (citation omitted). Thus, Dr. Felsher's testimony that Mr. Hill's occupational exposure to jet fuel is not a cause of Mr. Hill's CLL, based on his review of the scientific literature and reliance on Mr. Hill's testimony that he wore personal protection equipment during that work, is not unreliable.

Dr. Felsher thus thoroughly considered alternative risk factors and explained why he determined they were not likely causes of Mr. Hill's CLL. At root, Defendant's argument is nothing more than Defendant's disagreement with Dr. Felsher's opinions, not the method he used in reaching those opinions. The only remedy for that disagreement is cross-examination at trial, not exclusion of Dr. Felsher's opinions. *See*, *e.g.*, *Westberry*, 178 F.3d at 265 ("The alternative causes suggested by a defendant affect the weight that the jury should give the expert's testimony and not the admissibility of that testimony, unless the expert can offer *no* explanation for why [he] has concluded an alternative cause offered by the opposing party was not the sole cause.") (citation omitted). Dr. Felsher's testimony should be admitted.

II. Dr. Felsher Was Not Required to Rule Out Idiopathy Because Idiopathy Applies Only Where a Cause Cannot Be Identified.

Without any controlling authority, Defendant makes the farfetched argument that idiopathy must be considered in any differential etiology, regardless of whether there is a known, identifiable cause in a given case. But idiopathy – no identifiable cause – inherently is outside the scope of a differential etiology. Defendant's own expert, Dr. Kates, acknowledges that idiopathy is limited to

situations when there is no known cause: "Q. And would you agree that idiopathy is not a cause. It's just you don't know the cause yet? A. I would say that idiopathy – yeah, I would define idiopathy as the cause is unknown." Kates Dep. Tr. at 314:17-21 (JA Ex. 586, D.E. 507-7). Idiopathic describes the scenario where all *identifiable* causes have been ruled out (or not investigated) and there are no remaining known causes:

> [A] differential diagnosis methodology may be defeated where a defendant has shown that many other risk factors can independently cause plaintiff's disease and cannot be ruled out, or the expert has not offered a reasonable explanation as to why he or she has concluded that any alternative cause suggested by the defense was not the sole cause. Notably, here, defendants do not suggest any alternative cause of plaintiff's [NHL], much less one that cannot be ruled out or one that is the sole cause of the disease.

Lightfoot v. Georgia-Pacific Wood Prods., LLC, No. 7:16-CV-244-FL, 2018 WL 4517616, at *22 (E.D.N.C. Sept. 20, 2018) (citations omitted).

Once a cause is identified, idiopathy is no longer relevant to differential etiology. Again, Defendant's expert testified as much:

> [Q.] So would you agree with me that as a methodology, they wouldn't have even gotten to the point of calling it idiopathic because they found a cause before that, true?
> A. So in terms of methodology, I think that is correct. . . . ***Methodologically, if you come to a conclusion of a cause, then, you know, idiopathic would not be in the list anymore.***

Stadler Dep. Tr. at 110:9–21 (JA Ex. 600, D.E. 508-0). (emphasis added).

Multiple circuit courts "have consistently ruled that experts are not required to rule out all possible causes when performing the differential etiology analysis." *Johnson v. Mead Johnson Co. LLC*, 754 F.3d 557, 563–64 (8th Cir. 2014) (citing *In re Prempro Prods. Liab. Litig.*, 586 F.3d 547, 566–67 (8th Cir. 2009) (rejecting the argument that expert testimony on the cause of plaintiff's breast cancer must be excluded because the cause of breast cancer is generally unknown and because the plaintiff had known risk factors). *See also Cooper v. Smith & Nephew, Inc.*, 259 F.3d

194, 202–203 (4th Cir. 2001). "This is true in patients with multiple risk factors, and analogously, in cases where there is a high rate of idiopathy." *Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1237 (9th Cir. 2017). *See*, *e.g.*, *In re E. I. du Pont de Nemours & Co. C-8 Pers. Inj. Litig.*, 54 F.4th 912, 932 (6th Cir. 2022) (upholding a decision where differential etiology was permitted despite "testimony from multiple experts that most testicular cancer is idiopathic); *Hardeman v. Monsanto Co.*, 997 F.3d 941, 966–67 (9th Cir. 2021) (holding that—despite Monsanto's argument that the plaintiff "failed to adequately rule out idiopathy, considering that 70% or more of NHL cases have unknown causes"—"the evidence provided a sufficient basis for reliably ruling out idiopathy by concluding glyphosate was a substantial cause of Hardeman's NHL").[2]

Moreover, the Fourth Circuit's standard in particular is clear, as stated in *United States v. Chikvashvili*:

> A differential diagnosis that "fails to take serious account of other potential causes may be so lacking that it cannot provide a reliable basis for an opinion on causation." [*Westberry*, 178 F.3d] at 265. But a court should not exclude an expert's testimony "because he or she has failed to rule out *every* possible alternative cause" of a medical event. *Id.* (quoting *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 156 (3d Cir. 1999)) (emphasis added). It is enough to eliminate potential causes "until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely." *Id.* at 262. Any "alternative causes suggested by a defendant 'affect the weight that the jury should give the expert's testimony and not the admissibility of that testimony,' unless the expert can offer '*no* explanation for why she has concluded [that an alternative cause] was not the sole cause.' " *Id.* at 265 (quoting *Heller*, 167 F.3d at 156-57).

859 F.3d 285, 294 (4th Cir. 2017).

Judge Flanagan applied this principle in *Lightfoot*, offering clear guidance that is squarely on point and defeats Defendant's motion:

> [B]y considering multiple other potential causes of plaintiff's [disease] and concluding that exposure to [a risk factor] was the cause of plaintiff's [disease], [an expert] necessarily addresse[s] and reject[s] idiopathic cause . . . consideration that

[2] Interestingly, even Monsanto "acknowledge[d] that an expert can rule out idiopathy by reliably concluding that the known factor (here, glyphosate) is a 'substantial cause[.]' *Hardeman*, 997 F.3d at 966.

> a disease is "idiopathic" is not a required component of differential diagnosis, where an expert has "at least consider[ed] other factors that could have been the sole cause of the plaintiff's injury.

2018 WL 4517616, at *21 (citation omitted).

In short, "unknown causes" are not competing etiologies that must be ruled out; they are instances where evidence is missing. When an expert reliably rules in a known cause, reasonably addresses other plausible explanations, and the analysis is further corroborated, idiopathy is no longer relevant. Defendant's position ultimately shifts the burden to disprove an undefined, untestable *something else*, which is not required in a reliable differential etiology.[3] *Lightfoot*, 2018 WL 4517616, at *21. Because Dr. Felsher was able to identify a cause of Mr. Hill's CLL—the water at Camp Lejeune—he was not required to independently "rule out" idiopathy.

A. Nevertheless, to the Extent Appropriate, Dr. Felsher Assessed Idiopathy.

Despite the fact that Dr. Felsher was not required to rule out idiopathy as a cause of Mr. Hill's CLL, he still considered that Mr. Hill's CLL was not idiopathic. *See* Felsher SC Dep. Tr. at 264:4–267:21) (JA Ex. 606, D.E. 509-4) (explaining why it is "[n]ot true" that he does not consider idiopathy in specific causation reports). Pointedly, Dr. Felsher explains that the concept of idiopathy does not comport with the idea that the chemicals Mr. Hill was exposed to at Camp Lejeune make "it much more difficult for everyday replication of your cells to happen" without mistake. *Id.* at 264:10–266:21. There is no basis to exclude Dr. Felsher on the grounds that he did not expressly rule out idiopathy—finding a cause of disease necessarily rules out unknown causes. *Id.* at 264:15–18 ("[I]f I'm going to do differential etiology and I find a cause, to say I didn't consider the possibility I wouldn't find a cause is comically absurd.").

[3] Further discussion of Defendant's fundamental misunderstanding of idiopathy and its relation to differential etiology is described in PLG's opposition to Defendant's Motion to Exclude Opinions of Plaintiffs' Specific Causation Experts in Non-Hodgkin's Lymphoma Trial Plaintiff Cases Under Federal Rule of Evidence 702(D) for Failing to Reliably Employ a Differential Etiology.

B. There Is No Legal Basis to Support Defendant's Arguments to the Contrary.

i. Defendant's Caselaw Does Not Demonstrate a Separate Requirement to Consider Idiopathy.

Defendant's argument that a differential etiology is inherently unreliable where a large number of cases are idiopathic is contrary to the caselaw above and largely unsupported even by the caselaw it cites. *See* D.E. 538 at 16, 18–19. Defendant first relies on a 30-year-old Massachusetts district court opinion, *Whiting v. Bos. Edison Co.*, 891 F. Supp. 12, 21 n.41 (D. Mass. 1995), which reasoned: "If 90 percent of the causes of a disease are unknown, it is impossible to eliminate an unknown disease as the efficient cause of a patient's illness." But the First Circuit has since superseded this reasoning in *Milward v. Rust-Oleum Corp.*, 820 F.3d 469, 476 (1st Cir. 2016). Ironically, Defendant cites to *Milward* for the proposition that it affirms "exclusion of expert because 'the extraordinary number of idiopathic [acute promyelocytic leukemia] cases, coupled with the lack of a reliable means to rule out an idiopathic diagnosis here, muted [the expert's] ability to reliably apply' the differential etiology method[.]" D.E. 538 at 19. But this quote omits the beginning of the same paragraph, which states: "[g]iven that the record does not contain a scientifically reliable basis to 'rule in' benzene, Dr. Butler needed some other method to 'rule out' an idiopathic diagnosis." *Milward*, 820 F.3d at 476. Thus, the issue in that case was the expert's inability to rule in benzene to the *Milward* court's satisfaction.[4]

[4] This reflects that, in cases that turn on issues of idiopathy, the underlying facts often reflect a lack of expert evidence of general causation. *See*, *e.g.*, Joseph Sanders et al., *Differential Etiology: Inferring Specific Causation in the Law from Group Data in Science*, 63 Ariz. Law Rev. 851, 913 (2021) (noting that "[i]n most of these cases [turning on idiopathic cause]…, there is in fact little or no data on general causation."). Here, however, Plaintiffs have provided extensive general causation expert reports providing the necessary groundwork regarding genotoxicity of the relevant contaminants. *See* Gondek GC Rep. (JA Ex. 96, D.E. 465-1) (general causation report of Dr. Gondek on leukemia); Mallon GC Rep. (JA Ex. 98, D.E. 465-3) (general causation report of Dr. Mallon on leukemia); Bird GC Rep. (JA Ex. 103, D.E. 465-8) (general causation report of Dr. Bird on NHL and leukemia).

The remainder of Defendant's cited cases are likewise distinguishable and, regardless, are not controlling. In *Hall v. ConocoPhillips*, 886 F.3d 1308 (10th Cir. 2018), for example, while the court states that, "[b]ecause idiopathy accounts for more than half of the cases of acute myeloid leukemia, a differential diagnosis could be considered inherently unreliable here." *Id.* at 1315. But the court does not hold that this ***is*** the case. The *Hall* court merely concludes that it ***could*** be the case and "that the district court had the discretion to consider Dr. Gore's differential diagnosis unreliable." *Id.* Next, the decision in *Perry v. Novartis Pharma. Corp.*, 564 F. Supp. 2d 452 (E.D. Pa. 2008) is not only nonbinding on this court but it is distinguished by a more recent case from the same district court. *See In re Diet Drugs (Phentermine/Fenfluramine/ Dexfenfluramine) Prods. Liab. Litig.*, 890 F. Supp. 2d 552, 562 (E.D. Pa. 2012) ("In their diagnoses, Dr. Rich and Dr. Rubin have excluded all other known causes of PPH. They need not exclude unknown or idiopathic causes of PPH in order for their differential diagnoses to be a reliable basis for their opinions."). In addition, the *Bland v. Verizon Wireless, (VAW) L.L.C.*, 538 F.3d 893 (8th Cir. 2008) decision is superseded by *Johnson v. Mead Johnson & Co. LLC*, where the court stated:

> [W]e have consistently ruled that experts are not required to rule out all possible causes when performing the differential etiology analysis. *Lauzon*, 270 F.3d at 693; *In re Prempro Prods. Liab. Litig.,* 586 F.3d 547, 566–67 (8th Cir. 2009) (rejecting the argument that expert testimony on the cause of plaintiff's breast cancer must be excluded because the cause of breast cancer is generally unknown and because the plaintiff had known risk factors).

754 F.3d 557, 563–64 (8th Cir. 2014). Finally, *Lipitor* does not address idiopathic causes.

In addition, Defendant overlooks at least two circuit courts that have issued decisions contrary to its position. The Sixth Circuit upheld a decision where differential etiology was permitted despite "testimony from multiple experts that most testicular cancer is idiopathic." *In re E. I. du Pont.*, 54 F.4th at 932. And in *Hardeman*, 997 F.3d at 966–67, the Ninth Circuit rejected Monsanto's argument that the plaintiff "failed to adequately rule out idiopathy, considering that

70% or more of NHL cases have unknown causes[,]" and held that "the evidence provided a sufficient basis for reliably ruling out idiopathy by concluding glyphosate was a substantial cause of Hardeman's NHL." Interestingly, even Monsanto "acknowledge[d] that an expert can rule out idiopathy by reliably concluding that the known factor (here, glyphosate) is a 'substantial cause[.]'" *Id.* at 966.

Defendant's support for its position is thus exaggerated at best. In any event, the Fourth Circuit's standard is clear, as set forth in *Chikvashvili*:

> A differential diagnosis that "fails to take serious account of other potential causes may be so lacking that it cannot provide a reliable basis for an opinion on causation." *Id.* at 265. But a court should not exclude an expert's testimony "because he or she has failed to rule out *every* possible alternative cause" of a medical event. *Id.* (quoting *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 156 (3d Cir. 1999)) (emphasis added). It is enough to eliminate potential causes "until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely." *Id.* at 262. Any "alternative causes suggested by a defendant 'affect the weight that the jury should give the expert's testimony and not the admissibility of that testimony,' unless the expert can offer '*no* explanation for why she has concluded [that an alternative cause] was not the sole cause.'" *Id.* at 265 (quoting *Heller*, 167 F.3d at 156-57).

859 F.3d at 294. And as discussed above, Judge Flanagan specifically addressed this issue in *Lightfoot*, correctly concluding that an expert need not include idiopathy in a differential etiology once a cause is identified: when an expert considers multiple potential causes of disease and concludes that exposure to a toxin caused the disease, the expert has "necessarily addressed and rejected idiopathic cause." *Lightfoot*, 2018 WL 4517616 at *21 (citing *In re Lipitor*, 892 F.3d at 644).

ii. Background Risk Likewise Has No Place in a Differential Etiology.

Finally, Defendant's contention that Dr. Felsher's opinion is unreliable because he did not "identify Mr. Hill's background risk of CLL compared to the risk associated with the potential cause he identified," D.E. 538 at 18, also has no support in the law in this Circuit or, to Plaintiffs'

knowledge, any court. First, Defendant improperly relies on *In re Lipitor*, 892 F.3d 624, which does not even mention the term "background risk" in the decision. *In re Lipitor* does discuss "increased risk," but that is in the context of general causation, not specific causation. *See id.* at 644 ("increased risk" referenced in specific causation section solely to illustrate the distinction between the role of general and specific causation expert). Next, Defendant cites two other cases to support its argument—*McClain v. Metabolife Intern., Inc.*, 401 F.3d 1233, 1243 (11th Cir. 2005) and *Chapman v. Procter & Gamble Distrib., LLC*, 766 F.3d 1296, 1308 (11th Cir. 2014)—but again, these decisions, in referencing background risk, do so explicitly as a consideration pertaining to *general* causation.

None of the cases Defendant cites suggests that a differential etiology must, or even should, rule out or otherwise consider background risk, or that background risk even has any bearing on specific causation. Nor could it; background risk is a population-level statistic – a measure of how often a disease occurs in the general population, encompassing all causes (known and unknown). It is not a potential cause of disease in an individual to be ruled in or out through application of a differential etiology.

III. Dr. Felsher's Opinions Regarding Vinyl Chloride Should Not Be Excluded Because He Did Not Abandon Them at His Deposition.

Dr. Felsher did not abandon at his deposition his opinions regarding the presence of vinyl chloride in the water at Camp Lejeune to which Mr. Hill was exposed. Defendant claims that Dr. Felsher "disavowed" his position because of statements made in his *general* causation deposition. In his *specific* causation report, Dr. Felsher opined that vinyl chloride along with other chemicals "unfortunately led to a diagnosis via flow cytometry of B-Cell chronic lymphocytic leukemia (CLL) in 2004 at the age of 52." Felsher Am. SC Rep. (Hill) at 11 (JA Ex. 451, D.E. 496-3). Dr. Felsher was clear in his opinion that vinyl chloride, in combination with the other carcinogens in

the Camp Lejeune water, caused Mr. Hill's cancer. At his *general* causation deposition, Defendant did not ask Dr. Felsher about additivity. The fact that he didn't volunteer it at his deposition, when it appears in his report, does not mean that he "disavowed" any opinion relating to additivity.

CONCLUSION

For the foregoing reasons, the Plaintiff respectfully requests that this Court deny the Defendant's Motion in its entirety.

Dated: November 10, 2025

[Signatures appear on the following page]

Dated: November 10, 2025.

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